

Innovative solutions to reducing diffuse pollution

As we've discussed before in 'Water News', the New Forest is an outstanding area for freshwater biodiversity. Supporting greater numbers of species and a greater number of rare species than most other landscapes in lowland Britain. We are also fortunate enough to have alongside some internationally important coastal and marine habitats. Working in partnership to maintain the highest standards and taking practical steps to address any underlying issues has been the core objective of the New Forest Catchment Partnership.



Solent SPA at Plummer's Water ©Jim Champion.

In this article we look at how innovative solutions can be used to address issues of diffuse pollution from the agricultural land which lies between the protected areas of the New Forest's Site of Special Scientific Interest and The Solent's Special Protection Area. Whether livestock or arable, modern farming practices inevitably produce higher levels of nutrients than would occur naturally in the environment. We have been seeking to install measures which will help to reduce inputs and slow the flow, helping sediments and nutrients to remain on the land rather than draining into our rivers or out to sea.

Through walkovers and discussions with landowners and farmers it has been relatively easy to pinpoint individual issues which could be addressed. However, many of the standard solutions and grants are not available or suitable for these land holdings. Ironically more options and grants would be available if they were larger agri-businesses; but if this were the case the results would be less effective because the levels of polluting nutrients would be higher!

One such issue was identified on a landholding to the south of the New Forest. Here the lightly fouled water lagoon was being piped directly out to sea under an EA licence. The preferred option would be to close off this pipe and instead put a system in place to return the fouled water to land.

The solution was simple in its design, an underground pipe would be installed to connect the fouled water lagoon to an existing field irrigation system which was no longer in use. A Briggs Roto System would then spread the slurry on a managed field rotation. The Briggs system uses a 200 meter cable staked to the ground, over a period of time the pumped material rotates the boom, winding in the tethered cable.



Briggs Rotorainer Pump now installed by the Lagoon on the Farm



The workings inside the Rotorainer.

Once completed the system can be re-positioned with a quad bike. For the system to work on this farm a folding boom has been included in the order to aid transporting the system from field to field through the gateways.

The fouled water will be tested periodically to ensure that it continues to meet the requirements for discharge to fields and the spreading will comply with good agricultural practice, for example:

- No spreading on waterlogged, frozen or snow covered ground.
- No spreading within 100 meters of all SSSIs across the farm
- No spreading within 10 meters of a water course or ditch

The system has been installed and is working well and the previous discharge pipeline out to sea de-commissioned. Such a simple solution, but one which will have significant benefits for the marine environment, helping towards Water Framework Directive objectives for The Solent

This project, and others in this area, have been made possible because of the support and collaboration of the local farming community. The project was coordinated by Freshwater Habitats Trust on behalf of the New Forest Catchment Partnership and delivered in partnership with the New Forest Land Advice Service, Catchment Sensitive Farming, Beaulieu Estate funding and with technical support and funding from the Environment Agency.

Rhys Morgan from the New Forest Land Advice comments:

“This has been a fantastic opportunity to work with the Fresh Water Habitats Trust, and Natural England on a collaborative approach to tackle an outdated method of dairy farming management to deal with the lightly fouled water from the lagoon.

Discussions with the Environment Agency allowed suitable funding to support the project to a success. The farmer Arthur Rolf is committed to monitoring and maintaining the system into the future and to avoid any high levels of nitrates spreading on the fields to comply with the Environment Agency regulations.

Dean Mason from Natural England also comments:

“It was really encouraging to see the farmer’s enthusiasm in wanting to improve his farming practice with respect to the environment and this project will deliver measurable benefits to the Solent Maritime Special Area of Conservation (SAC)”.



Briggs Roto System © Briggs



Arthur Rolf (Farmer) and Rhys Morgan (New Forest Land Advice Service) discussing good agricultural practice and buffer zones around ditches, watercourses and SSSIs.



Preparations on the farm for the installation of the new system.



From left to right: Rotorainer spreader situated in the field, Arthur Rolfs (Farmer), Rhys Morgan (New Forest Land Advice Service), Dean Morgan (Natural England)